REMARKS

Support for claims 17 and 23 can be found in the specification, e.g., Page 2, paragraph No. 6, and Page 9, lines 24-36; for claims 18-19 on Page 6, last paragraph; for claim 20, Fig. 1B; Page 2, lines 1-14; claims 22 and 24 on Page 9, first and fourth paragraph and SEQ ID NOS:11-16 (which disclose fragments of specific lengths).

Rejection under §101

Claim 8 has been amended as suggested.

Rejection under §112, first paragraph (pages 3-7)

It is stated on Page 3 of the Office action that the specification "does not reasonably provide enablement for all possible polynucleotides encoding the polypeptide of SEQ ID NO:2 or 4, or fragments of said nucleic acids ..."

All coding sequences for the polypeptide sequence of SEQ ID NO: 2 can be claimed. This is evident from basic molecular biology principles, and has even been recognized by the Court of Appeals for the Federal Circuit ["It may be true that, knowing the structure of the protein, one can use the genetic code to hypothesize possible structures for the corresponding gene ... " In re Bell, 991 F.2d 781 (Fed. Cir. 1993)]. The PTO expressly indicates that this type of claim is permissible. In Example 11 of the PTO *Written Description Guidelines*, it is stated "Claim 1 is drawn to the genus of DNAs that encode amino acid sequence SEQ ID NO:2, i.e., all sequences degenerately related by a genetic code table to SEQ ID NO:1. Although only one species within the genus is disclosed, SEQ ID NO:1, a person of skill in the art could readily envision all the DNAs degenerate to SEQ ID NO:1 by using a genetic code table. One of skill in the art would conclude that applicant was in possession of the genus based on the specification and the general knowledge in the art concerning a genetic coding table." Consequently, the claims conform to the PTO Guidelines.

Claims 1 and 22 have been amended to recite that the polynucleotides encode polypeptides which inhibit PC12 differentiation induced by FGF2 or NGF and have at least 90% identity. Support for this amendment can be found throughout the specification, e.g., Example 6,

Page 16; Page 7, lines 7-12; Page 5, 4th paragraph under "DETAILED DESCRIPTION OF THE INVENTION." It would be routine to select additional sequences coding for polypeptides with the recited activity. For example, additional sequences can be selected using, e.g., hybridization (e.g., Page 6, last paragraph); RACE-PCR (Page 7, Example); RT-PCR (Page 9); PCR (e.g., using primers disclosed in paragraph spanning Pages 8-9); and mutagenesis technology which would be routine to the skilled worker. Example 6, Page 17, lines 2-16, provide several examples of mutations, including an N-terminal truncated mutant, a C-terminal truncated mutant, and a mutation which lacks a phosphorylation site.

The specification also provides information about the structural features and activities of the claimed polypeptides. See, Page 5, 5th paragraph-Page 6, 1st. This includes identification of conserved features, including a transactivation domain, TIR domain, SH3 interaction domain, and a phosphorylation site. Fig. 1A shows conserved regions between the claimed polypeptides and other IL-17 receptors. Thus, the information disclosed in the specification is clearly beyond that disclosed in *Eli Lilly*, 43 USPQ2d 1398 (Fed. Cir. 1997), and other cases, which provided no information on structural and functional features of the claimed genus.

The specification also provides numerous assays to determine the biological activity of polypeptides of the claimed invention. These include cell proliferation assays (e.g., Example 4, Page 15); inhibition of FGF2 or NGF-induced PC12 cell differentiation (Example 6, Page 16); and inhibition of Ras-MAPK signaling pathway (Example 7, Page 17). Thus, the specification provides adequate guidance to make and use the full scope of the claims.

Rejection under §112, second paragraph (Pages 8)

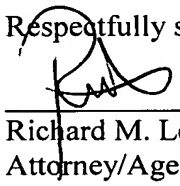
The amendments to the claims render the rejections moot.

Rejection under §102 (Page 9)

SEQ ID NO: 4 has been cancelled from the claim.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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